

Name: _____

Date: _____

Period: _____

Genetics/Meiosis/DNA Unit

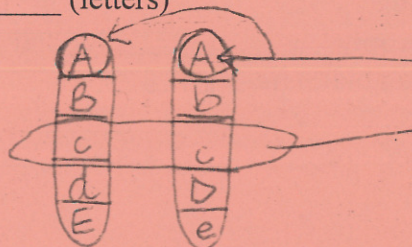
1. **heredity** – passing of _____ from _____ to _____
2. **examples of traits** – _____
3. **genetics** -- study of how _____ are _____ from _____ to _____
4. **Gregor Mendel** -- _____ of _____; used _____ to study _____
 - 1st experiment – performed pea plant _____ for 7 different _____
5. **offspring** -- _____ generation from _____

6. **genes** – sections of _____ and _____ on a _____

7. **alleles** – different _____ of a _____ (letters)



twisted stuff =



8. **dominant** -- allele that _____ (capital letter)
9. **recessive** -- allele that _____ (lowercase letter)
10. **Punnett Square** – tool used to _____ all possible _____ combinations

mom – dad
Bb x bb

	25%	25%	
	25%	25%	

–mom –dad
Bb x Bb

	25%	25%	
	25%	25%	

–mom –dad
BB x Bb

11. **probability** – mathematical _____ that an _____ will occur
12. **genotype** -- _____ displayed (BB, Bb, bb)
13. **phenotype** – organism's _____ (brown, blonde, or black hair)

14. **heterozygous** -- _____ alleles (Bb) synonym - _____

15. **homozygous** -- _____ alleles (BB, bb) synonym - _____

Genes still a mystery! Must understand REPRODUCTION!

Two types:

1. **asexual reproduction** - 1 _____ cell needed to produce _____ cells or copies
2. **sexual reproduction** - 2 _____ cells join together to form new _____
 - a. **parent cells** = _____ cells
 - b. **meiosis** - cell _____ that produces sex cells (sperm or egg)
 - i. females receive 2 _____
 - ii. males receive 1 _____ and 1 _____

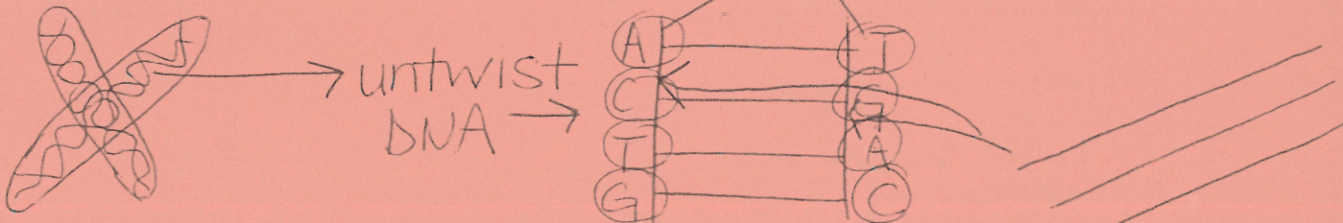
Genes & DNA

Genes must:

1. supply _____ for cell _____ and building cell _____
2. be able to be _____

Genes made of _____ and _____

DNA Structure = _____



- **Make-up** = _____ + _____ - _____ backbone
 - **Nucleotides** = _____, _____, _____, and _____
 - **A** pairs with _____
 - **C** pairs with _____
- **To copy, must** _____ in _____

How DNA Works:

- Reads like a _____
- 3 _____ code for an _____ acid
 - _____ acids form _____ to give us _____

Problems with DNA:

- **mutations** - change in _____ of _____ in DNA
 - **base pair replaced, base pair added, base pair removed**
- Mutations lead to _____ (Down syndrome)

Ways to get around gene issues!

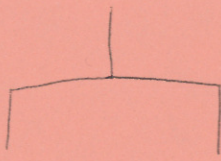
1. **Pedigrees** - tools for _____ a trait through _____ of the family
2. **Selective breeding** - mating organisms with _____ traits to receive the _____ gene
3. **Genetic engineering** - transfer _____ from one organism to _____
4. **Cloning** - creating an _____

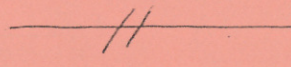
Pedigree Symbols:

○ - _____

□ - _____

_____ - _____

 - _____

 - _____

or

 - _____

Pedigree Creation